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# Pacific Bird Observer

NEWSLETTER OF THE PACIFIC OCEAN BIOLOGICAL SURVEY PROGRAM, SMITHSONIAN INSTITUTION, WASHINGTON, D.C.

SEPTEMBER 1965 NO 1

## SMITHSONIAN STUDIES PACIFIC BIRDS

As part of its Pacific Project, a biological survey of the Pacific, the Smithsonian Institution has engaged in a large scale scientific study of bird migration in the Pacific Ocean area. Although its purpose is primarily scientific, end results of the study will benefit many interests in the Pacific.

Scientists have long been puzzled by several questions regarding bird migration in the Pacific. What kinds or species of birds occur in different islands and areas at various seasons? Where do the birds come from? Where do they go? Do individual nesting birds always return to the same island to breed? Or do they go to another?

The scientific way to answer some of these questions is to capture and mark some of the birds in a distinctive way so that they can be identified later. Thus far over 400,000 birds of many species have been banded on islands in the Central Pacific by Smithsonian scientists. It is necessary to band so many because the proportion of bands recovered is very small in relation to the number and kinds of birds banded.

In banding, a serially numbered tag of aluminum or plastic is attached to the leg of each bird and records are kept so that the place of banding may be traced if the band is eventually found. Colored marks and plastic streamers are also used, each color representing a different island of capture for a given species, so that the place of marking may be learned simply by noting the color rather than by the sometimes difficult process of recovering both bird and band.

After being banded, the birds are released to continue their normal life. In just a few days they may be thousands of miles away. No one knows where all species and populations habitually go, but chances are that some of the 400,000 banded birds will turn up sooner or later in all parts of the Pacific, for many of the banded species are famous for their long over-water navigational abilities.

Banding is not a short term affair. Since the bands are rustproof and the numbers deeply impressed, the time and place of banding may be traced even though the band is old and worn. Living birds captured by Smithsonian scientists in the Pacific have been found still wearing bands which were attached over 20 years ago! After noting the band number, scientists released the birds so that their further travels could be traced.

The entire program, which consists of the initial banding and later capture, recording of the number, and release of the bird, will enable scientists of the Pacific Project to move toward their goal of tracing the migrations of Pacific birds.

# WHY BAND MIGRATORY BIRDS ?

In his ancient migrations throughout the Pacific, man found the birds his allies, and soon turned their ways to his advantage. Primitive voyagers learned to recognize the flight habits of certain birds far at sea and thus knew that land lay not far ahead. Many of the Pacific's islands were discovered in this way. Fishermen, too, for untold ages, have carefully observed the flight patterns of birds in their own search for fish. On land, many settlers have survived upon birds and their eggs when no other food was available.

Today, as in the past, birds are extremely important to life in the Pacific. The commerce in guano, a valuable agricultural fertilizer, stems from vast accumulations of excrement over long periods on "guano islands" where it is deposited by great numbers of sea birds. And, although man no longer depends heavily on birds for food and navigation, flocks of feeding sea birds still clue Pacific fishermen to schools of food fish.

In studies conducted by the U.S. Fish and Wildlife Service on the relation of bird flocks to fish schools in the Central Pacific, it was found that about 85 percent of all fish schools sighted was accompanied by feeding bird flocks and was located by first sighting the birds. Not only that, but fishermen were often able accurately to identify the species of fish by the characteristic action of the bird flock! A significant part of today's multi-million dollar tuna industry in the Pacific owes its existence to birds and their value as fish-school indicators.

**PACIFIC BIRD OBSERVER**

This is a bi-monthly newsletter published by the Division of Birds, Smithsonian Institution, in an effort to promote the understanding of birds and their relation to man in the Pacific.

Wild birds are of great value to man in the Pacific for all of these reasons, and like anything of great value should be respected and conserved. Used wisely, they will remain an aid to man for unlimited years to come.

## GILBERTESE

## FIRST TO BAND

Modern scientists are not the first to employ bird banding as a means of identification. Peter Child, Education Officer at Tarawa, Gilbert Islands, from 1943 to 1944, wrote the following note in *Birds of the Gilbert and Ellice Island Colony* (1960): "Gilbertese who have caught Turnstone for some of their games, and have identified their own birds by tying a piece of coloured cloth to a wing, have had the same birds return to them after an absence on migration, presumably to the Arctic and back."

The Division of Birds, Smithsonian Institution, is interested in learning more about this interesting custom. Anyone having further information on this or similar traditions in other areas is urged to write the Smithsonian Institution.

# FRIGATEBIRDS OF THE PACIFIC

Although three species of frigatebird occur in the Pacific ocean, only two, the Great Frigatebird and the Lesser Frigatebird, are widely distributed. The third, the Magnificent Frigatebird, occurs only along the west coast of North America and in the Galapagos Islands.

So similar are the Greater and Lesser Frigatebirds in appearance, that the immature birds cannot be identified surely without comparing them to museum specimens. The adults, however, may be identified with reasonable accuracy. The male Lesser Frigate has a triangular white patch under the wing and against the side of the body which is very conspicuous when the bird is in flight. In the Greater Frigate, this patch, while somewhat lighter than the body, is never so light as in the Lesser Frigate. Females of the two species are very similar. The grey throat of the Lesser Frigate female terminates abruptly at the black breast while, in the Greater Frigate female, the throat blends into the black breast.

Frigates may be identified easily by their flight which is a glide so effortless as to last for hours. In flight the deeply forked tail opens and closes like a scissors. Frigates do not commonly land on water, lacking the oil and webbed feet of many water birds, but rather prefer to snatch their food from the water's surface.

Perhaps the frigate's most unendearing trait is that it is a robber bird, diving at boobies in flight and catching in mid-air the prey which the booby has dropped. Frigates also dive on nests to snatch the young of both boobies and other frigates, bearing it aloft to be eaten in mid-air. The frigate is not altogether a villain, however, for its remarkable homing instinct is utilized by islanders to carry messages, much in the manner of a homing pigeon.

**Immature Frigatebird.** **Photo by R.** Clapp, Pacific Project.

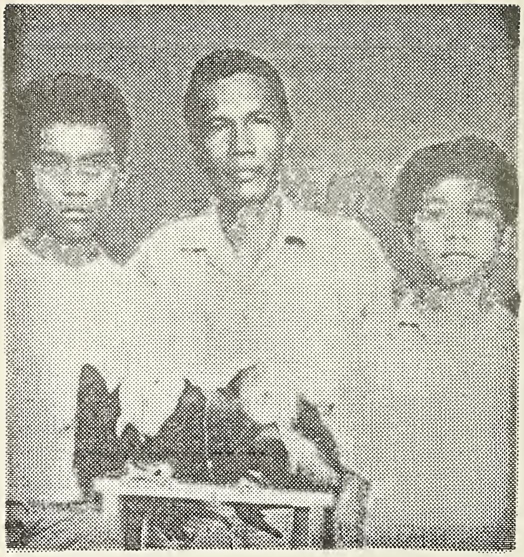
The Pacific Project has discovered large numbers of Lesser Frigatebirds breeding in the Phoenix Islands, an area from which they had not been recorded previously. In addition, the band returns on this species have contributed much new information to the distribution of the bird. Much more information still is needed, however, on the breeding status and relative numbers of both the Greater and Lesser Frigatebirds in areas such as the Samoan, Caroline, Gilbert, Marshall, Society, and other island groups of the Pacific.

## HOW YOU CAN PUBLICIZE SMITHSONIAN STUDY

1. If you know anyone likely to encounter birds in the Pacific area, either on sea or shore, tell him to watch for live or dead birds which have been banded or color marked.

2. Publicize the Pacific Bird Observer. Send it to friends; publish or broadcast parts of it; post it where people can easily read it.

3. Tell people who wish to cooperate to write Division of Birds, Smithsonian Institution, Washington D.C. 20560, and ask to be placed on our free mailing list. They will receive future issues of the Pacific Bird Observer.



Above: L. Alcantara and A. Quibaran who captured two frigatebirds, and P. Viernes who reported the capture in Cagayan, Philippines, May, 1965.

## VOLUNTEERS FROM NW QUADRANT SPREAD THE WORD ON PACIFIC PROJECT

People from 19 countries and 21 major island groups have written to tell us how they are publicizing the migration study and the need for band reporters. These publicizers are very important to the banding program--the key people in fact in the whole migration study operation.

The names of all volunteers are too numerous to list in this issue, but some of those in the Northwest Pacific (north of the equator and west of the 180° meridian) are given below and on the next page, together with their services. Names of others in the remaining three quadrants of the Ocean will be listed in future issues of Pacific Bird Observer.

Much more publicity in the Northwest was generated than our list indicates. If you live in the Northwest quadrant and have helped spread information about the migration study, please write and tell us how you have helped the project. A request to Division of Birds, Smithsonian Institution, Washington, D.C. 20560, will put you on our free mailing list.

### PUBLICITY VOLUNTEERS AND THEIR CONTRIBUTIONS

TAIWAN:

Dr. Fah-hsuen Liu, Director, Institute of Fishery Biology: requested cooperation of all China Fishery Corporation crews; requested Fisheries Organization to inform all Taiwan fishermen.

JAPAN:

Dr. Akihiko Inaba, Director Mukaishima Marine Biological Station: copied and distributed notices to 600 schools on coast of Inland Sea.

Mr. Arnie J. Suomela, Fisheries Attache, U.S. Embassy, Tokyo: distributed notices to Pacific-Japanese tuna, salmon bottom, coastal fisheries, and forest research laboratories, Japan.

Dr. Hideo Omura, Director, Whales Research Institute: distributed and printed notices in Geiken-tsushin, monthly journal of Whales Research Institute.

Prof. Seiji Konda, Faculty of Fisheries, Kagoshima U.: distributed notices to training ships; requested cooperation from newspaper, high school, and fishery stations in Kagoshima.

PHILIPPINES:

Dr. Theodore G. Megia, Chairman, College of Fisheries, U. of the Philippines: arranged for publicity in Daily Mirror, leading Philippine newspaper.

BURMA:

Dr. F. Ba Hli, Director General, Union of Burma Applied Research Institute: offered Malay translation of notice; arranged newspaper publicity; distributed notices; suggested additional cooperators.

KOREA:

Dr. Hon-Kyu Kim, Prof. of Zoology: translated notice into Korean; distributed to news and journal publishers; requested cooperation of lighthouses.

MALAYSIA:

Lord Medway, Dept of Zoology, U. of Malaya: offered Malay translation of notice; arranged newspaper publicity; distributed notices; suggested additional cooperators.

H. M. Stanfield, Director of Marine, Labuan, Malaysia: requested publicity from daily newspapers and port officers.

J. R. Blease, Director of Marine, Sarawak: requested cooperation from lighthouses and naval patrol vessels.

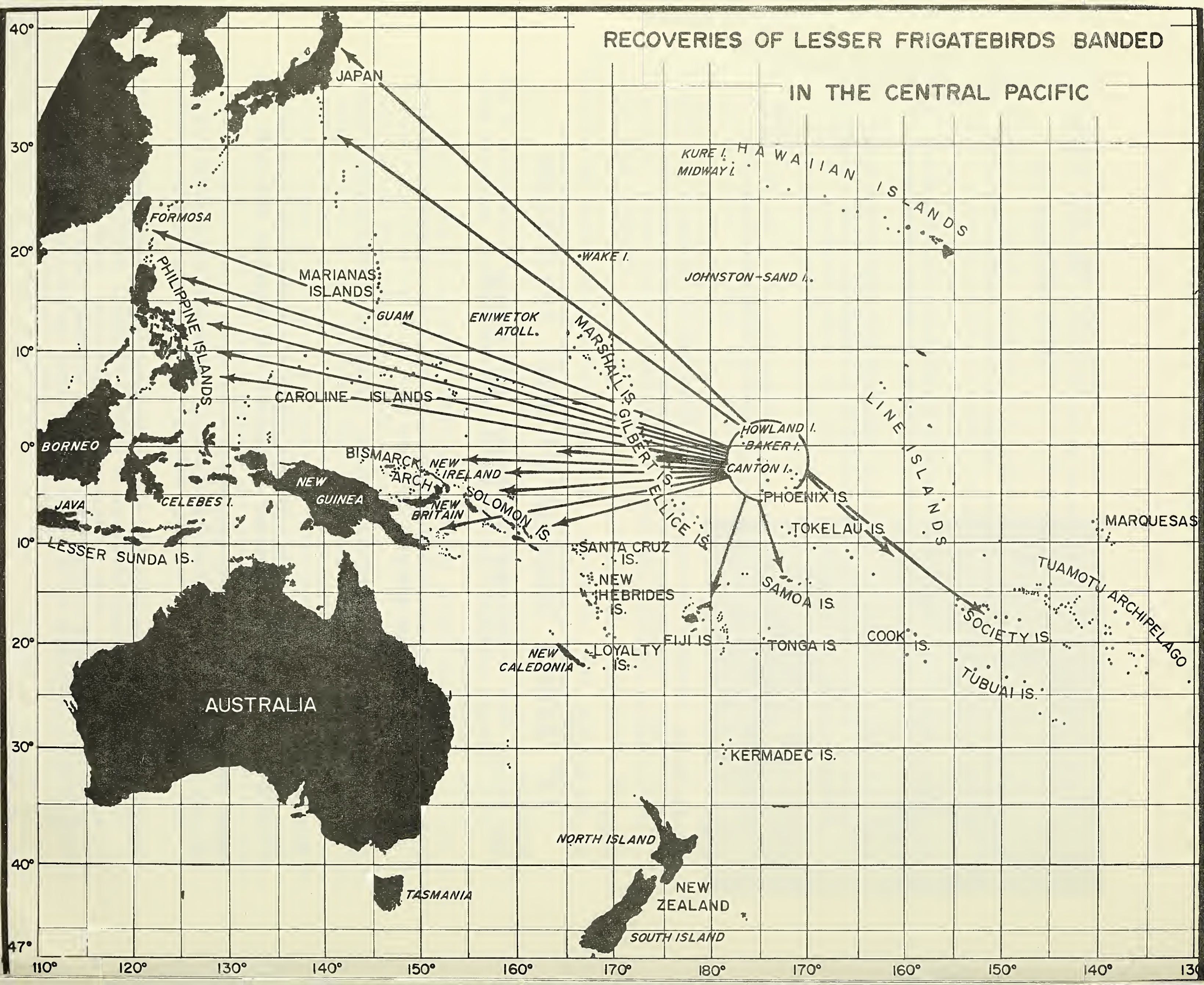
THAILAND:

Boon Indrambarya, Regional Adm. Officer, Food and Agriculture Organization: distributed notices to potential cooperators and suggested additional help.

TRUST TERRITORY OF THE PACIFIC ISLANDS:

Richard F. Taitano, Deputy High Commissioner: requested cooperation from all Dst. Administrators and Res. Mgr. Saipan; all high schools; news broadcast.

Robert Sutcliffe, science teacher, and Robert Halvorsen, Ponape, Eastern Caroline Islands: arranged broadcast of notice, newspaper publication, discussion with teachers from all Micronesian districts, publication in Daily Bulletin, discussion in high school biology classes, translation into Ponapean and distribution to all out-islands (with the help of Bethwel Henry).



RECOVERIES OF LESSER FRIGATEBIRDS BANDED IN THE CENTRAL PACIFIC

# LESSER FRIGATEBIRD BAND REPORTERS

NAME OF REPORTER AND LOCATION WHERE THE BIRD WAS FOUND ARE GIVEN BELOW

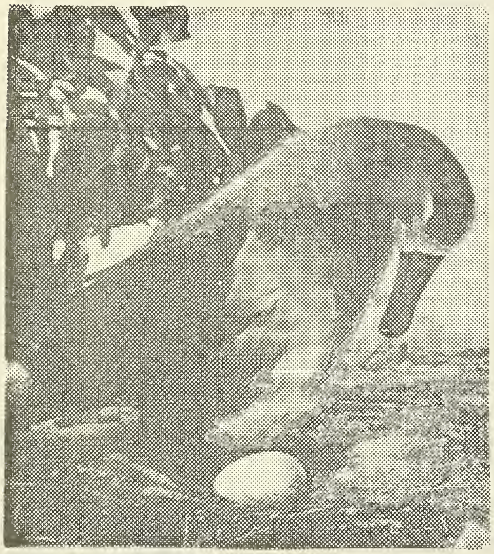
INITIALS INDICATE ISLAND WHERE THE BIRD WAS ORIGINALLY BANDED:
P-PHOENIX ISLAND E-ENDERBURY ISLAND M-MCKEAN ISLAND H-HOWLAND ISLAND

P Miss Mieko Amano, Akita Pref., Japan
H Mrs. Hisa Hayashi, Chiba Pref., Japan
H Mr. Sancho Faburada, Negros Oriental, Philippines
E Mrs. Maria Buco, Agusan, Philippines
M Mr. Francioso C. Svan, Southern Leyte, Philippines
M Mr. Abraham Galves, Southern Leyte, Philippines
M Miss A. C. Ceniza, Loyte, Philippines
M Mr. Luisito Alcantara (via P. G. Viernes), Aparri, Cagayan, Philippines
H Mr. Antonio Quibaran (via P. C. Viernes), Aparri, Cagayan, Philippines
H Mrs. A. S. Noceda, Catanduanes, Philippines
M Mr. M. K. Barosa, Alilinu, Cagayan, Philippines
H Mr. Vicente Palenzuela, Bohol, Philippines
H Mr. Dionisio Guiano, Ilocos Norte, Philippines
H Mr. Ermetanio Fidalgo, Surigao del Sure, Philippines
M Mr. Felipe Gaufo, Sorsogon, Philippines
H Alesana (via C. Williams), Tarawa, Gilbert Islands
P Te. Mouaata (via Magistrate, Arorae I. and Dist. Comm. Gilbert I.), Arorae I., Gilbert Islands
H Mr. J. H. Kaiaena (via R. Turpin), Lord Howe Island, Ontong Java
M Peni Rika, Chakaudrove, Fiji Islands
M Mr. C. A. Brown, North Taveuni, Fiji Islands
M Mr. Teokotai Williams, Manihiki Atoll, Cook Islands
P Mr. Wang Chin-fa (via Hsu Tsai-Hsing), Taiwan (Formosa)
P Messrs Tsin-Fa Wang, Pingtung Hsien, Taiwan (Formosa)
P Mr. Walter Smith, Taipei, Taiwan (Formosa)
H Mr. Joseph Harris, Nauru Island
H Mr. Timothy Aliklik, Nauru Island
H Tererebu of Tabiteuea (via W. Crawford), Nauru Island
M Mr. Marcel Richerd, Ile de Huahine, French Polynesia
M Mr. Silas Tilikohu and Saumani (via R. Turpin), Auki, Malaita, Solomon Islands
M Mr. L. J. O'Malley, Manus Island, New Guinea
M Mr. H. K. Ralph, Nunga, Papua, via Mt. Hagen, W. H. D., New Guinea
P Mr. T. J. Parr, Madang, New Guinea
M Mr. B. Parer, Madang, New Guinea
P Mr. R. Birag Kauss, Madang, Terr. New Guinea
M Rev. J. T. Keady, Sohano, Bougainville, Papua, and New Guinea
H Mr. Peni Topapakat (via R. D. Mackay), Finschhafen, New Guinea
M Mrs. M. Ogilvie, Sumasuma I., Ninigo Islands, New Guinea
H Rev. Richard Skelly, M.S.C., Manus, Terr. of Papua, and New Guinea
P Rev. C. Grenier, S.M., Sohano, Bougainville, New Guinea
P Messrs J. Kranz and C. Patupatuai, Buin, Bougainville, New Guinea
M Rev. A. L. Taylor, Namatanai, Terr. New Guinea
M Mr. W. P. Parkes, Kavien, New Ireland
H Mr. Graham Thomson, New Ireland, Terr. New Guinea
P Messrs J. R. Simmons and G. T. Jackson, Savai'i, Western Samoa
H Mr. E. F. Rainbow, Shipboard: 31°50'N, 141°55'E

# NORTH PACIFIC ALBATROSSES

Only two kinds of albatross or gooney bird are commonly found in the North Pacific. The Black-footed Albatross is almost entirely a dark chocolate brown with greyish-brown feet and bill. It has a white area below the eye and at the base of the bill, as shown in the illustration. The feathers of the belly are light grey to white, and some birds have a white patch just above the base of the tail. The Laysan Albatross is predominantly white with dark wings and back; its bill and feet are greyish.

Both albatrosses formerly were found over much of the North Pacific, as well as in the Hawaiians, but the activities of feather hunters during the early part of this century have restricted their nesting to the remote islands of the Leeward Hawaiian Chain. However, they range far out to sea in search of food during nesting and in August through September when no breeding occurs. Flying in long looping arcs over the water, the albatross drops almost to the surface and lightly touches the water with its wing tip to swing about and soar off in a different direction. Blackfeet seem to enjoy following ships, but Laysans rarely do so. The Black-footed Albatross also ranges farther north in the Pacific than does the Laysan, and is frequently seen off the west coast of North America.



A Black-footed Albatross and its single egg. Official U.S. Navy photo, Midway Island.

Blackfeet prefer to nest on the exposed sandy beaches and dunes, scraping a shallow cup in the sand in which is deposited their single egg. Laying normally occurs from mid-November until early December, and the downy chick hatches in late January or early February.

Parents share the responsibility of brooding the egg and feeding the young, normally taking turns at incubating and attending the chicks which are fed regurgitated food, mostly squid, until July, at which time most parent birds leave the island, to be followed by the young birds a few weeks later.

The albatross has evolved a most interesting and amusing courtship behavior in the form of a courtship dance which may be seen at all times of the breeding season. It probably serves to reacquaint the breeding pair when they return to the island in the fall and to maintain their attentiveness toward each other and the mutual task of raising their youngster. Various antics of the dancers include placing the head under one raised wing, wagging the head vigorously from side to side, clacking the bill loudly and rapidly, and finally stretching to full height on tiptoe with bill pointed to the sky, puffing the chest, and emitting a long nasal groan.